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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,763	12/28/2001	Alex Horng	HORN3083/EM	4313

7590 03/24/2003

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EXAMINER
SMITH, JULIE KNECHT

ART UNIT	PAPER NUMBER
3682	

DATE MAILED: 03/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/029,763	Applicant(s) HEISE, SEAN R.	
	Examiner Julie K Smith	Art Unit 3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 December 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1-7, Applicant states that the bearing is leakproof and dustproof. However, the recitation in claim 1 that the edge of the race is in *almost* contact with the inner wall of the shaft seat, indicates that dust can enter ~~or~~ OR fluid can leak into the bearing.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 4-5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Muto et al. (4,571,011).

Regarding claim 1, Muto et al. discloses a bearing comprising a shaft seat (5a) having a bearing provided therein, and a rotation shaft (4) rotatably mounted in the bearing, the improvement comprising a race (23) formed with a hold closely combined on the rotation shaft

located above the bearing (see fig. 2), and a circumferential edge of the race is in contact with the inner wall of the shaft seat.

Regarding claims 4-5 and 7, Muto et al. discloses a bearing wherein the thickness of the mediate portion of the race is gradually tapered toward the circumferential edge of the race 23, see fig. 2).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muto et al. as applied to claims 1, 4-5 and 7 above, and further in view of Shy (6,024,496). Muto et al. discloses a bearing as claimed, but does not disclose an annular groove. However, Shy teaches a rotation shaft (16) having an annular groove (17) for a snapping connection of a snap member (21).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the bearing of Muto et al. with the groove of Shy so as to secure the shaft in its position during operation.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muto et al. as applied to claims 1, 4-5 and 7 above, and further in view of McInerney (4,613,288). Muto et al.

discloses a bearing as claimed, but lacks a washer. However, McInerney teaches a washer (85) mounted on a rotation shaft (78) between a race (87) and a bearing (82).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the bearing of Muto et al. with the washer, as taught by McInerney, to reduce friction during rotation and to further seal the bearing so as to prevent oil or dust from entering the bearing.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muto et al. as applied to claims 1, 4-5 and 7 above, and further in view of Liu et al. (6,020,664). Muto et al. discloses a bearing, as claimed, but does not disclose the tapered shape of the race as described by the applicant. However, Liu et al. teaches the tapered shape (see fig. 3a).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shape of the race of Muto et al. with the teachings of Liu et al. to provide a more stable race in order to prevent vibrations and additional friction during rotation.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

4,253,711 to Lynn et al.

5,281,035 to Lo

6,040,649 to Horng

6,082,903 to Saneshige

6,435,722 to Horng

2,298,463 to Burt, Jr.

3,471,157 to Swearingen	5,887,994 to Nomura et al.
4,669,894 to Hallerback	5,228,784 to Bobo
4,854,743 to Sexton et al.	6,497,226 to Bircann et al.
6,113,106 to Dahlheimer	6,177,744 to Subler et al.
5,833,372 to Nisley	4,909,640 to Nakanishi
6,066,903 to Ichiyama	6,280,089 to Horng
5,610,462 to Takahashi	5,937,735 to Shimizu et al.
5,930,075 to Khan et al.	3,961,798 to Damretowski et al.
JP 54069641 to Tsuji	JP 01083914 to Arai et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie K Smith whose telephone number is 703-305-3948. The examiner can normally be reached on Monday-Friday, 8-5:30, (Every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Bucci can be reached on 703-308-3668. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

JKS
jks
March 20, 2003

William C. Joyce 3/20/03
William C. Joyce
Patent Examiner